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ABSTRACT

This study compared the effects of whole language practices with the effects of a skills-oriented program on the reading achievement of a group of children from an inner-city, low socioeconomic school from the time they entered kindergarten to the end of second grade. Subjects were 22 children, all of a minority race, randomly placed in one of the two groups. Assessments were made at the end of each school year of children's ideas about reading, their reading behaviors, and their reading achievements. Results showed that by the end of second grade, children in the whole language group were better readers than those in the skills-oriented group in all areas. (Fifteen tables of data are included, and 17 references are attached.) (SR)

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Effects of a Whole Language and a Skills-Oriented Program on the Literacy Development of Inner City Primary Children

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Effects of a Whole Language and a Skills-Oriented Program on the Literacy Development of Inner City Primary Children

Introduction

Many authorities (Anrig, 1985; Boykin, 1984; Forbes, 1985; Froe, 1972; Shannon, 1985) identify social class as a determinant of both the quality and quantity of education offered to students. Cardenas and First (1985) suggest that fewer resources are allocated to schools in poor neighborhoods than to schools in middle and upper class neighborhoods. According to Comer (1988), poor minority children are undereducated and fall well below the national average in academics.

In spite of the severity of the problem and the concern expressed by many people, there has been little change in the type of reading instruction offered low-income, minority students. It is estimated that a basal reader approach, based on a skills-oriented view of reading, is used in over 90 percent of all classrooms in the nation (Goodman et al., 1988; Vacca,

Vacca, & Gore, 1988). In a skills-oriented reading class, much of the instructional time is spent reading stories from basals and practicing skills isolated from meaningful contexts. Although several reading authorities have shown that competent readers do not necessarily have mastery of isolated reading skills and that no hierarchy of reading skills exists (Downing, 1982; Goodman, 1970; McNeil, 1974), reading instruction in the United States continues to be dominated by a skills approach. This approach has not been successful with many low-income, inner city students. An alternative to skills-based instruction is a curriculum based on a whole language view of literacy development.

Goodman, Smith, Meredith, and Goodman (1987, p.6) describe whole language as "curricula that keep language whole and in the context of its thoughtful use in real situations." In whole language classrooms students engage in purposeful reading activities and read children's books rather than just stories from readers. There is currently a movement toward whole language and this movement is gaining momentum as

educators become more informed about research findings on students' literacy development. Some educators are recognizing the importance of whole language for minority students. Boykin (1984), for example, recommends that Afro-American students should be taught to read using a holistic approach.

Research is needed to compare the effectiveness of practices reflecting these two major views of reading development. In a comprehensive search of literature, we did not find any longitudinal studies which compared the effects of skills-oriented programs with whole language. The purpose of this study was to compare the effects of whole language practices on the reading achievement of a group of children from the time they entered kindergarten to the end of second grade.

Method

In the fall of 1986, 50 kindergarten children in an inner city, low socioeconomic school (nearly 100% were on free lunch) in a large Southern city were randomly assigned to two classrooms. All the children were of a minority race, and were entering kindergarten

for the first time. Data were collected on all 50 children in kindergarten, but as time passed, many moved and only 11 remained in each group by the end of second grade. The data reported in this study are those collected on the remaining 22 children. There was less than one month difference in the average age in the two groups. Five boys and six girls were in the skills-oriented group; four boys and seven girls were in the whole language group.

Assessment Procedures

During the three years of kindergarten, first and second grades, one group was in a skills-oriented program; the other group experienced a whole language curriculum. The researchers made bi-weekly visits to the classrooms to verify the continuity of the two different literacy programs.

An assessment of children's ideas about reading was made at the end of kindergarten, and grades one and two. In addition, kindergarten children's reading behaviors were assessed using a descriptive procedure. Further, the reading achievement of children in grades

one and two were assessed by using a standardized reading achievement test and an informal reading inventory.

Ideas about Reading

At the end of each school year, the children in both groups were asked two questions: Why do people read? and How does someone become a good reader? The kindergarten children were also asked, Do you know how to read? At grades one and two, the children were asked two additional questions: What can you do as a reader? and What is a favorite book?

Reading Achievement

The design of the kindergarten achievement assessment was descriptive. The procedure comprised of several activities which included asking each student to go to the classroom and find something to read. When students returned with a text (usually a commercial big book or picture book), they were asked to read it. The students' attention to text was recorded as they read, paraphrased, or retold the story. When students finished with the text, they were

asked to point to specific words and the number of correctly identified words was recorded.

Reading behaviors were rated by the researchers on a five point scale. Agreement among raters was obtained on each classification for each student as the ratings were completed by the researchers working as a group. The level of measurement of the data was assumed to be interval.

Reading achievement at the end of first and second grade was determined by the reading portion of the Stanford Achievement Test (1982) and the complete Classroom Reading Inventory (Silvaroli, 1986). The word study subtest was used because we wanted to compare the levels of proficiency on the word study subtest of the whole language (WL) students who had no drill on word parts with the skills-oriented (SO) students who had intensive drill on word parts. In addition, the standardized reading comprehension scores of students in the two groups were compared.

Both the word lists and reading passages of the Classroom Reading Inventory were used. Children were

asked to read words from the word lists and their reading level was determined by the number of words read correctly. In addition, they were asked to read progressively more difficult passages and their reading level was determined by their ability to read the passages, retell the content, and answer questions concerning the passages.

The oral reading in the Classroom Reading Inventory was also studied using Clay (1985) and a miscue analysis technique adapted from Goodman, Watson, and Burke (1987). The Clay running record procedure was followed by counting the total number of words in the IRI oral reading passage and computing the percentage of words read correctly. The miscues (oral reading deviations from the actual text) were analyzed using procedures outlined by Goodman, Watson, and Burke. The number of miscues that resulted in no loss of meaning was subtracted from the total number of miscues to determine the rate of accuracy in constructing meaning.

Results

The results are presented in three sections: 1) findings concerning children's ideas about reading, 2) their reading achievement, and 3) the quality of their oral reading.

Ideas about Reading

A review of the information obtained from the individual interviews at kindergarten, first, and second grade levels revealed distinct differences between the responses of children in the two groups on most of the items.

As can be seen in Table 1, when asked, "Why do people read?" a majority of the kindergartners in the WL group said people read for enjoyment while the majority of the students in the SO group said people read to be successful in school. In response to the question, "What can you do as a reader?" 9 of the 11 kindergarteners in the WL group indicated they could read; 7 of the 11 students in the SO group said they could not read.

Insert Table 1 about here

All children in the first grade WL group, when asked what they could do as readers, said they could read books. By contrast, no one in the SO group said they could read books (see Table 2) and reported that they could read words, sentences, and the basal reader. In response to the question, "Why do people read?" all in the SO group said people read for school success but those in the WL group said people read to learn or for enjoyment. When questioned about favorite books, 10 of the 11 children in the SO group mentioned the name of a basal reader; those in the WL group gave the name of a big book or a specific trade book.

Insert Table 2 about here

At the end of second grade, children in the SO group were evenly divided over why people read (see Table 3). Six said, "to learn," while five gave responses indicating school success. Interestingly the children in the WL group did not differ markedly with respect to this question. When asked how someone becomes a good reader, the two groups responded in similar ways. When asked about their favorite author, however, the two groups gave very different answers. Nine in the WL group named an author of children's books, but no one in the SO group mentioned an author. In fact, the SO group did not know what an author was as can be seen in Table 3.

Insert Table 3 about here

Reading Achievement

Reading achievement was measured in three ways: (1) kindergarten responses to reading tasks, (2) scores on the reading comprehension and word study subtests of the Stanford Achievement Test, and (3)

scores on the Classroom Reading Inventory. These three measures of achievement are discussed in the following paragraphs.

At the end of kindergarten, reading achievement was assessed by children's performance on a series of tasks related to reading. Three observers rated the children on the extent to which they successfully completed the tasks. A five-point scale was used in the rating process. Appendix 1 contains a listing of the reading behaviors noted. Results for the two groups indicated that the WL group outperformed the skills group (see Table 4).

Insert Table 4 about here

In assessing the reading achievement of the first- and second-graders, the reading scores on the comprehension subtest of the Stanford Achievement Test were compared using an analysis of variance procedure with repeated measures. Both groups showed a

significant increase in achievement on both subtests between first and second grade. However, the whole language group outperformed the skills group in gains made by the groups over time (see Table 5).

Insert Table 5 about here

An analysis of variance procedure with repeated measures was also used to compare the first- and second-grade scores from the word study subtest on the Stanford Achievement Test. As can be seen in Table 6, both groups showed a significant increase in achievement on the word study subtest, however, the WL group outperformed the SO group in gains made by the groups over time.

Insert Table 6 about here

In Table 7, the scores of individual children on the kindergarten rating scale, and the comprehension portion of the first and second grade IRI are presented. A review of the scores shows the superiority of the WL students at all three levels.

Insert Table 7 about here

The reading comprehension levels on the Classroom Reading Inventory (Silvaroli, 1986) were analyzed for first grade. The Mann-Whitney U Rank Test for ordinal level data was used. A significant difference ($p < .001$) favoring the WL group was found (see Table 8).

Insert Table 8 about here

The comprehension scores on the Classroom Reading Inventory were compared (see Table 9) for second grade, using the Mann-Whitney U Rank Test for ordinal level data. A significant difference ($p < .001$) favoring the WL group was also found at the second grade level.

Insert Table 9 about here

The decoding levels on the Classroom Reading Inventory were analyzed for both first and second grade. The Mann-Whitney U Rank Test for ordinal level data was used. A significant difference ($p < .001$) favoring the WL group was found in first grade (see Table 10).

Insert Table 10 about here

A significant difference ($p < .001$) favoring the WL group was also found in second grade. The results of the Mann-Whitney U Rank Test are presented in Table 11.

Insert Table 11 about here

Quality of Oral Reading

Since children in the two groups were reading texts at different reading levels, it was not possible to compute averages comparing the two groups. For that reason, information on each child is included in Table 12 (first grade) and Table 13 (second grade). Children in the WL group were reading at higher levels and were reading more words correctly than those in the SO group. In the first grade, nine of the WL children

read with over 90% accuracy (not counting the errors that resulted in no meaning loss); only three SO children were at this level of accuracy (see Table 12).

Insert Table 12 about here

The superiority of the WL students' accuracy was maintained in second grade. Tables 13, 14, 15, and 16 presents the results.

Insert Table 13, 14, 15, and 16 about here

Discussion

By the end of second grade, children in the whole language group were better readers than those in the skills-oriented group. Since they were randomly placed in the two groups, it is assumed there were no

differences in the abilities or backgrounds of the children at the beginning of kindergarten. The superiority of the whole language group on the measures used is, therefore, attributed to the program.

In the whole language classrooms, children had daily shared book experiences and their teachers modeled writing several times each day. In addition, the children independently engaged in reading or reading-like behaviors and wrote their own stories. The teachers accepted and encouraged children's reading or reading-like behaviors and accepted their approximations in both reading and writing.

Children in the skills-oriented classrooms followed a traditional curriculum, i.e., they were assigned to a reading group and read stories from basals. Skills were taught separately through direct instruction and through the use of worksheets and workbooks.

Although the whole language group was not drilled on words or word parts in isolation, they scored significantly higher on the word study portion of the

Stanford Achievement Test and on the word list section of the Classroom Reading Inventory. It is possible that they were at a higher level on these tasks because they were at higher levels in their overall reading development and used their general knowledge of reading to make sense of the parts. They seemed to be able to move from the whole to the parts with a great deal of confidence and success. On the other hand, children in the skills-oriented group had been drilled on the word parts, but had difficulty making the part-to-whole relationships. For example, a child could sound out a word such as "b-e-d" but did not know that the sounds were the word bed. We expected that difficulty, but we were surprised that they also were less proficient than children in the WL group on tasks related to words and word parts. It seems that readers who have the "whole" of reading can move successfully to the parts.

Children in the whole language classrooms were encouraged to focus on meaning when they read and their oral reading miscues were not corrected. Teachers did, however, note their miscues and used the information to

plan individual and small group instruction. The whole language teachers did not view reading as an exact process but rather one in which readers predict, confirm, and integrate. The skills-oriented teachers seemed to view reading as an exact process. When listening to readers, they would correct or allow other children to correct all miscues which likely causes the reader to focus on words and word parts rather than on meaning. Perhaps this is one of the factors that explains the superiority of the performance of the WL students on the comprehension portions of the standardized reading test and the informal reading inventory.

A possible limitation of the study is that no reliability or validity procedures were conducted on the kindergarten reading behavior scale. The sample size is another limitation.

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Table 1

Ideas about Reading: Kindergarten

Type of Response	Whole	Skills
You are (5 or 6) years old. What can you do as a reader?		
Read letters		1
Read words		3
Read books	11	7
Why do people read?		
To succeed in school	1	8
To learn	3	1
To enjoy	7	
Don't know		2
When you are reading, what do you do when you come to a word you can't read?		
Indicated they go on reading	9	1
Indicated they didn't read	1	7
Indicated they don't read individual letters	1	3

Table 2

Ideas About Reading: First Grade

Type of Response	Whole Language	Skill
You are (6 or 7) years old. What can you do as a reader?		
Read words		3
Read sentences	1	
Read basal readers	7	
Read trade books and other books (books and print other than the basal)	11	
Why do people read?		
To succeed in school		11
To learn	7	
To enjoy	4	
What are some of your favorite books that you have read?		
Named basal readers	10	
Named big books in classroom	7	
Named trade books	4	1

Table 3

Ideas About Reading: Second Grade

Type of Response	Whole Language	Skills
Why do people read?		
For school success	3	5
To learn	7	6
For enjoyment	1	
How does someone become a good reader?		
By practicing	9	6
By listening	1	1
By reading carefully	1	
By learning how to read		2
By obeying the teacher		1
By thinking		1
Who is your favorite author?		
Named a children's author	9	
Said they couldn't remember name	2	
Named characters and famous people		7
Named teacher		1
Didn't know what an author was		2
Unrelated answer		1

Table 4

Kindergarten Reading Achievement Based on Reading Behavior Scale

Group	n	m	SD	t
Skills Oriented	11	1.91	.30	4.09*
Whole Language	11	3.55	1.29	

*p < .002

Table 5

Comparison of Reading Comprehension Scores for First and Second Grades

Source	df	SS	MS	F
Between subjects	1	46280.21	46280.21	22.12*
subjects X groups	20	41845.45	2092.27	
Within subjects	22	38975.51		
Time	1	32672.76	32672.7	112.44*
Groups X Time	1	491.11	491.114	1.69
Time X subjects within groups	20	5811.64	290.5	

* p < .0001

Table 6

Comparison of Word Study Scores for First and Second Grades

Source	df	SS	MS	F
Between subject	1	22455.36	22455.36	27.206*
Subjects X groups	20	16507.55	825.3773	
Within Subjects	22	13703.00		
Time	1	2156.00	2156.00	4.33*
Groups X time	1	1584.00	1584.00	3.18*
Time x subjects with groups	20	9963.0	498.15	

*p < .05

Table 7

Individual Student Growth Based on Kindergarten Reading Behavior Scale and First and Second Grade IRI Reading Comprehension

Student#	Kindergarten Reading Scale	First Grade* Grade Level	Second Grade Grade Level
Whole Language Group			
1	3	2	6
2	5	3	6
3	5	3	6
4	1	2	2
5	3	P	3
6	4	2	4
7	3	2	5
8	2	1	2
9	4	1	5
10	4	2	6
11	2	O	1
Skills Oriented Group			
12	2	O	1
13	2	PP	P
14	2	P	3
15	2	O	2
16	2	P	2
17	2	PP	PP
18	2	PP	2
19	1	1	3
20	2	PP	3
21	2	O	2
22	5	2	6

*O level means the student was unable to comprehend text at the PP level.

Table 8
Mann-Whitney U Test for First Grade IRI Reading Comprehension

Statistic	Skills-Oriented Group	Whole-Language
Number of Cases	11	11
Mean Rank	6.32	16.68*
U	3.5	
Z	-3.8124	

*p < .001

Table 9

Mann-Whitney U Test for Second Grade IRI Reading Comprehension

Statistic	Skills-Oriented Group	Whole Language
Number of Cases	11	11
Mean Rank	7.05	15.95*
U	11.5	
Z	-3.2802	

*p < .001

Table 10

Mann-Whitney U Test for First Grade IRI Word Recognition

Statistic	Skills Oriented Group	Whole Language
Number of Cases	11	11
Mean Rank	6.91	16.09*
U	10.0	
Z	-3.4801	

*p < .0029

Table 11

Mann-Whitney U Test for Second Grade IRI Word Recognition

Statistic	Skills Oriented Group	Whole Language
Number of Cases	11	11
Mean Rank	7.45	15.55*
U		16.0
Z		-2.9764

*p < .0029

Table 12

Whole Language Group: First Grade

Running Record and Miscue Quality

Stud. No.	Comp. Level	Running Words	No. of Miscues	Accur. % Rate	NML Miscues*	Accur. w/NML**
1	2	56	6	89.4	3	94.6
2	3	92	8	91.3	5	96.7
3	3	92	12	87.0	2	89.1
4	2	56	9	83.9	1	85.7
5	P	37	2	94.6	2	100.0
6	2	56	2	96.4	1	98.2
7	2	56	3	92.9	1	96.4
8	1	45	4	92.9	1	93.3
9	1	45	7	84.4	2	88.9
10	2	56	4	92.9	0	92.9
11	2	56	4	92.9	0	92.9

* No meaning loss miscues (miscues that do not change the meaning of the sentence)

** Accuracy including all miscues that do not affect meaning

Table 13

Skill-Oriented Group: First Grade

Running Record and Miscue Quality

Stud. No.	Comp. Level	Running Words	No. of Miscues	Accur. % Rate	NML Miscues	Accur. w/NML**
1	0***	27	7	74.1	0	74.1
2	0***	27	8	70.4	3	81.5
3	PP	27	3	88.9	3	100.0
4	P	37	9	75.7	3	83.8
5	0***	27	7	74.1	0	74.1
6	P	37	5	86.5	1	89.2
7	PP	27	9	66.7	1	70.4
8	PP	27	3	88.9	1	92.6
9	1	45	10	77.8	2	82.2
10	PP	27	1	96.3	1	100.0
11	0***	27	8	70.4	3	81.5

* No meaning loss miscues (miscues that do not change the meaning of the sentence)

** Accuracy including all miscues that do not affect meaning.

*** Student read passage orally, but did not comprehend text

Table 14

Whole Language Group: Second Grade

Running Record and Miscue Quality

Stud. No.	Comp. Level	Running Words	No. of Miscues	Accur. % Rate	NML Miscues*	Accur. w/NML**
1	6	113	1	89.4	3	94.6
2	6	113	3	92.0	5	96.7
3	6	113	0	92.9	2	89.1
4	2	56	6	100.0	1	85.7
5	3	92	3	87.0	2	100.0
6	4	100	2	98.0	1	98.2
7	5	105	2	98.1	1	96.4
8	2	56	1	98.2	1	93.3
9	5	105	3	92.3	2	88.9
10	6	113	1	94.7	0	92.9
11	6	113	8	92.0	0	92.9

* No meaning loss miscues (miscues that do not change the meaning of the sentence)

** Accuracy including all miscues that do not affect meaning

Table 15

Skill-Oriented Group: Second Grade

Running Record and Miscue Quality

Stud. No.	Comp. Level	Running Words	No. of Miscues	Accur. % Rate	MML Miscues	Accur. w/MML**
1	1	45	10	77.8	1	80.0
2	1	45	20	55.6	4	64.4
3	p****	37	6	83.8	0	83.8
4	3	92	14	84.8	5	90.2
5	2	56	15	73.2	7	85.7
6	2	56	0	100.0	0	100.0
7	pp***	27	8	70.4	4	85.2
8	2	56	2	96.4	1	98.2
9	3	92	12	87.0	1	88.0
10	3	92	14	84.8	0	84.8
11	2	56	10	82.1	3	87.5

* No meaning loss miscues (miscues that do not change the meaning of the sentence)

** Accuracy including all miscues that do not affect meaning

*** PP means preprimer

**** P means primer

Appendix

Kindergarten

Assessment of reading behaviors when student was asked to find something he/she could read and then to read the text Level

1. Talked about picture with no attention to text
2. Retold story with no attention to print
3. Paraphrased text with some degree of accuracy but could not identify specific words
4. Said words of text with high degree of accuracy and could identify selected words
5. Said words of text accurately and could point at most words